

***Amendments to the Claims***

Claims 1-20 are cancelled.

21. (Previously presented) An isolated polynucleotide comprising a nucleotide sequence encoding a glucuronyl C5-epimerase capable of converting D-glucuronic acid to L-iduronic acid, the amino acid sequence of which is at least 95% identical to a reference amino acid sequence selected from the group consisting of:

- (a) amino acids 25 to 444 of SEQ ID NO: 13 and
- (b) amino acids 1 to 444 of SEQ ID NO: 13.

Claims 22-24 are cancelled.

25. (Currently amended) The isolated polynucleotide of claim 21 encoding a polypeptide comprising amino acid residues 1-444 of SEQ ID NO: 13.

Claims 26-32 are cancelled.

33. (Currently amended) The isolated polynucleotide of claim 21 which is DNA.

34. (Currently amended) The isolated polynucleotide of claim 21 which is RNA.

35. (Currently amended) The isolated polynucleotide of claim 21, wherein said isolated polynucleotide encodes a polypeptide which is a fusion protein.

Claims 36 and 37 are cancelled.

38. (Currently amended) A vector comprising the isolated polynucleotide of claim 21.

39. (Previously presented) The vector of claim 38, wherein said vector comprises a transcription unit.

40. (Currently amended) A host cell comprising the isolated polynucleotide of claim 21.

41. (Previously presented) The host cell of claim 40, selected from the group consisting of Sf9 cells, *E. coli*, 293 human embryonic kidney cells, COS-1 cells and CHO cells.

42. (Previously presented) A method of producing a protein that comprises culturing the host cell of claim 40 under conditions such that said protein is expressed and recovering said protein.

43. (Currently amended) An isolated polynucleotide encoding a glucuronyl C5-epimerase capable of converting D-glucuronic acid to L-iduronic acid and which hybridizes under the conditions of incubation at 65°C in a solution comprising: 6X SSC, 5X Denhardt's solution containing 0.1% SDS and 0.1 mg/ml denatured salmon sperm DNA, followed by

washing in 2X SSC and 0.5% SDS at 42°C, to a target polynucleotide encoding a polypeptide selected from the group consisting of:

- (a) amino acids 25 to 444 of SEQ ID NO: 13 and
- (b) amino acids 1 to 444 of SEQ ID NO: 13.

Claims 44-46 are cancelled.

47. (Currently amended) The isolated polynucleotide of claim 43 encoding a polypeptide comprising amino acid residues 1-444 of SEQ ID NO: 13.

Claims 48-54 are cancelled.

55. (Currently amended) The isolated polynucleotide of claim 43 which is DNA.

56. (Currently amended) The isolated polynucleotide of claim 43 which is RNA.

57. (Currently amended) The isolated polynucleotide of claim 43, wherein said polynucleotide encodes a polypeptide which is a fusion protein.

Claims 58 and 59 are cancelled

60. (Currently amended) A vector comprising the isolated polynucleotide of claim 43.

61. (Previously presented) The vector of claim 60, wherein said vector comprises a transcription unit.

62. (Currently amended) A host cell comprising the isolated polynucleotide of claim 43.

63. (Previously presented) The host cell of claim 62, selected from the group consisting of Sf9 cells, *E. coli*, 293 human embryonic kidney cells, COS-1 cells and CHO cells.

64. (Currently amended) A method of producing a protein that comprises culturing the host cell of ~~claims~~ claim 62 under conditions that said protein is expressed, and recovering said protein.

65. (Currently Amended) An isolated polynucleotide, ~~or an isolated complementary polynucleotide,~~ comprising a nucleic acid sequence which encodes a polypeptide having glucuronyl C5-epimerase activity and is capable of converting D-glucuronic acid to L-iduronic acid, and which hybridizes under the conditions of incubation at 65°C in a solution comprising: 6X SSC, 5X Denhardt's solution containing 0.1% SDS and 0.1 mg/ml denatured salmon sperm DNA, followed by washing in 2x SSC and 0.5% SDS at 42°C, to ~~said isolated~~ a target polynucleotide selected from the group consisting of:

(a) nucleotides 73 to 1404 of SEQ ID NO: 12;

- (b) nucleotides 73 to 3085 of SEQ ID NO: 12;
- (c) nucleotides 145 to 1404 of SEQ ID NO: 12;
- (d) nucleotides 145 to 3085 of SEQ ID NO: 12;
- (e) nucleotides 1 to 1404 of SEQ ID NO: 12 and
- (f) nucleotides 1 to 3085 of SEQ ID NO: 12.

Claim 66 is cancelled.

67. (Currently amended) The isolated polynucleotide of claim 65 comprising nucleotides 73 to 1404 of SEQ ID NO: 12, ~~or said isolated complementary polynucleotide that hybridizes to the same.~~

68. (Currently amended) The isolated polynucleotide of claim 65 comprising nucleotides 73 to 3085 of SEQ ID NO: 12, ~~or said isolated complementary polynucleotide that hybridizes to the same.~~

Claims 69-71 are cancelled.

72. (Previously presented) The isolated polynucleotide of claim 65 comprising nucleotides 145 to 1404 of SEQ ID NO: 12, ~~or said isolated complementary polynucleotide that hybridizes to the same.~~

73. (Currently amended) The isolated polynucleotide of claim 65 comprising nucleotides 145 to 3085 of SEQ ID NO: 12, ~~or said an isolated complementary polynucleotide that hybridizes to the same.~~

74. (Currently amended) The isolated polynucleotide of claim 65 comprising nucleotides 1 to 1404 of SEQ ID NO: 12, ~~or said an isolated complementary polynucleotide that hybridizes to the same.~~

75. (Currently amended) The isolated polynucleotide of claim 65 comprising nucleotides 1 to 3085 of SEQ ID NO: 12, ~~or said an isolated complementary polynucleotide that hybridizes to the same.~~

76. (Currently amended) The isolated polynucleotide of claim 65 which is DNA.

77. (Currently amended) The isolated polynucleotide of claim 65 which is RNA.

78. (Currently amended) The isolated polynucleotide of claim 65, wherein said polynucleotide encodes a polypeptide which is a fusion protein.

79. (Currently amended) The isolated polynucleotide of claim 65, wherein said polynucleotide sequence is selected from a member of the group consisting of

- (a) nucleotides 73 to 1404 of SEQ ID NO: 12;
- (b) nucleotides 73 to 3085 of SEQ ID NO: 12;

- (c) nucleotides 145 to 1404 of SEQ ID NO: 12;
- (d) nucleotides 145 to 3085 of SEQ ID NO: 12;
- (e) nucleotides 1 to 1404 of SEQ ID NO: 12 and
- (f) nucleotides 1 to 3085 of SEQ ID NO: 12;

and wherein said isolated polynucleotide encodes a fusion protein.

80. (Currently amended) ~~[[A]]~~ An isolated polynucleotide which encodes an amino acid sequence which has a deletion of the N-terminal~~[[,]]~~ or C-terminal ~~or internal~~ regions of the amino acid sequence encoded by the polynucleotide of claim 65, and wherein said polynucleotide sequence is selected from a member of the group consisting of

- (a) nucleotides 73 to 1404 of SEQ ID NO: 12;
- (b) nucleotides 73 to 3085 of SEQ ID NO: 12;
- (c) nucleotides 145 to 1404 of SEQ ID NO: 12;
- (d) nucleotides 145 to 3085 of SEQ ID NO: 12;
- (e) nucleotides 1 to 1404 of SEQ ID NO: 12 and
- (f) nucleotides 1 to 3085 of SEQ ID NO: 12.

81. (Currently amended) A vector comprising the isolated polynucleotide of claim 65.

82. (Previously presented) The vector of claim 81, wherein said vector comprises a transcription unit.

83. (Currently amended) A host cell comprising the isolated polynucleotide of claim 65.

84. (Previously presented) The host cell of claim 83, selected from the group consisting of Sf9 cells, *E. coli*, 293 human embryonic kidney cells, COS-1 cells and CHO cells.

85. (Previously presented) A method of producing a protein that comprises culturing the host cell of claim 83 under conditions such that said protein is expressed, and recovering said protein.

Claims 86-102 are cancelled.

103. (Previously presented) An isolated polynucleotide comprising a nucleotide sequence encoding a polypeptide, comprising amino acid residues 1-444 of SEQ ID NO: 13.

104. (Currently amended) The isolated polynucleotide of claim 103 which is DNA.

105. (Currently amended) The isolated polynucleotide of claim 103 which is RNA.

106. (Currently amended) The isolated polynucleotide of claim 103, wherein said polynucleotide encodes a polypeptide which is a fusion protein.



107. (Currently amended) ~~[[A]]~~ An isolated polynucleotide which encodes an amino acid sequence which has a deletion of the N-terminal~~[[,]]~~ or C-terminal ~~or internal~~ regions of the amino acid sequence encoded by the polynucleotide of claim 103 and having glucuronyl C5-epimerase activity and capable of converting D-glucuronic acid to L-iduronic acid.

108. (Currently amended) A vector comprising the isolated polynucleotide of claim 103.

109. (Previously presented) The vector of claim 108, wherein said vector comprises a transcription unit.

110. (Currently amended) A host cell comprising the isolated polynucleotide of claim 103.

111. (Previously presented) The host cell of claim 110, selected from the group consisting of Sf9 cells, *E. coli*, 293 human embryonic kidney cells, COS-1 cells and CHO cells.

112. (Previously presented) A method of producing a protein that comprises culturing the host cell of claim 110 under conditions such that said protein is expressed, and recovering said protein.

113. (Previously presented) An isolated polynucleotide comprising a nucleotide sequence encoding a polypeptide, comprising amino acids 25 to 444 of SEQ ID NO: 13.

114. (Currently amended) An isolated polynucleotide, ~~or an isolated complementary polynucleotide~~, comprising nucleotides 73 to 3085 of SEQ ID NO: 12, or an isolated polynucleotide complementary to said isolated polynucleotide.

115. (New) An isolated polynucleotide completely complementary to the polynucleotide of any one of claims 65, 67, 68, 72, 73, 74 or 75.